

Demographic features and clinical outcomes in Non transfer STEMI Vs Transfer STEMI groups

Variable	Non Transfer STEMI (n=501)	Transfer STEMI (n=507)	P value
Age	62 +/- 13	60 +/- 13	0.07
Males	75%	71%	0.17
Diabetes Mellitus	21%	21%	0.8
Mean Ejection fraction	47 +/- 11	47 +/- 10	0.9
Cardiogenic shock and/or cardiac arrest before PCI	12.8%	14.4%	0.45
Cardiogenic shock after PCI	2.8%	4.2%	0.24
CHF after PCI	2.2%	2.4%	0.85
IABP use	7.6%	7.3%	0.8
Stroke after PCI	1.2%	0.6%	0.3
Goal DTB time achieved	85% (<90 min)	33% (<120 min)	<0.001
In hospital mortality	5.2%	5.3%	0.9

Conclusions: Current systems of rapid transfer and PCI in acute STEMI patients transferred for primary PCI from non PCI facility enable these patients to have similar short term clinical outcomes as patients presenting directly to PCI facility.

TCT-45**Impact of Ischemic Post-Conditioning on Infarct Size and Clinical Outcomes in Primary Percutaneous Coronary Intervention: A Meta-analysis of 26 Randomized Controlled Trials**

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Background: Ischemic post-conditioning (IPOC) is believed to improve the outcome in ST elevation myocardial infarction (STEMI) undergoing primary percutaneous intervention (PPCI) by minimizing the reperfusion injury though several trials have shown variable results. We sought to perform a meta-analysis of randomized controlled trials (RCTs) comparing IPOC versus standard therapy during PPCI.

Methods: PubMed, Cochrane and Web of Science databases were searched through April 30th 2014 for RCTs comparing IPOC versus standard therapy during PPCI. Outcomes analyzed were infarct size by MRI (% of LV mass), peak cardiac biomarkers (troponins), left ventricle ejection fraction (LVEF) by MRI & transthoracic echo (TTE), ST segment resolution of $\geq 70\%$ (ST70), death, myocardial infarction (MI) and subsequent revascularization. Study quality, publication bias, heterogeneity were assessed. Random effect model used for data analysis.

Results: 26 RCTs with 2330 patients (IPOC 1169, Control 1161) were included for the analysis. Infarct size assessed by MRI (SMD -0.06 (p=0.84) at 1 wk, -0.03 (p=0.88) at 1-6 mo), peak troponin (SMD 0.04 p=0.91), ST70 (RR 1.04 p=0.78) and LVEF both by MRI (SMD 0.14 (p=0.12) at 1wk, 0.04 (p=0.7) at 1-6 mo) & TTE (SMD 0.28 (p=0.1) at 1wk, 0.11 (p=0.57) at 1-6 mo, 1.18(p=0.06) at 1-3 yr) were similar in both groups (IPOC versus control). Similarly there was no difference in clinical endpoints like death (RR 1.44 p=0.28), MI (RR 1.83 p=0.37) and subsequent revascularization (RR 1.2 p=0.75).

Conclusions: IPOC compared to standard therapy is neither associated with any significant benefit in terms of clinical outcomes nor improvement in degree of myocardial necrosis in STEMI patients undergoing PPCI.

TCT-46**Management of very elderly patients with ST elevation myocardial infarction**

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Background: There is very little clinical data or specific management guidelines for very elderly patients with ST Elevation MI (STEMI). We evaluated our practice in the management of STEMI in patients over age 85.

Methods: A retrospective study of STEMI patients aged >85 in a PPCI (Primary percutaneous coronary intervention) centre in the UK between April 2012-November 2013. Data was collected from Intellect, MINAP databases and discharge documents.

Results: Of the 993 patients with STEMI, 66 (6.6%) were >85 years of age. There were 38 males and 28 females (average age 88 (85-96) years). 35(63%) had PPCI and 31 (27%) treated medically. Inferior MI (50%) was more common than Anterior (36%). Patients had multiple co-morbidities: Hypertension (32), smoking history (30), Ischaemic Heart Disease (11), Hyperlipidaemia (8), Diabetes Mellitus (7) and Stroke (6). 77% (51) were discharged alive and 23% (11) died in hospital and a further 16% (11) died 1 year post-discharge. In-hospital complication rate was 13% (8). Of 31 managed conservatively, 21 (67%) were females. Average age 89 years with multiple co-morbidities. Presentation included dizziness, abdominal pain, feeling unwell, vomiting and collapse. PPCI was not offered due to late presentation (>12 hours after

symptom onset) (32%), poor prognosis, cardiogenic shock, high risk of bleeding, resolution of symptoms and ECG and frailty. 20 (64%) were discharged alive, 7(22%) died in the hospital and 4 transferred to a different hospital. Additional 8 (25%) died 1 year post-discharge. Complication rate was 12%. In the PPCI group (35), 24 (68%) male patients, average age 87 years presented with typical symptoms and multiple co-morbidities. 30(85%) of patients were discharged alive and a further (3)8.5% died within 1 year post-discharge. Complication rate was 14%.

Conclusions: Elderly patients undergoing PPCI had better outcomes. Both groups had multiple co-morbidities. Overall complication rate was 13%; although PPCI group had a higher complication rate but a lower mortality 1 year post-discharge. Therefore, PPCI has a role in treating the very elderly with STEMI, this analysis emphasises the need for clinical trials targeted at this population.

TCT-47**Impact of Pre-procedural Cardiopulmonary Instability in Patients with Acute Myocardial Infarction Undergoing Primary PCI: Insights from the HORIZONS-AMI trial**

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Background: Rapid reperfusion with primary percutaneous coronary intervention (PCI) improves survival in patients with ST-segment elevation myocardial infarction (STEMI). Pre-procedural cardiopulmonary instability and adverse events (IAE) may delay reperfusion time and worsen prognosis. We set out to evaluate the relationship between pre-procedural cardiopulmonary instability and adverse events (IAE), door-to-balloon time (DBT), and outcomes in the HORIZONS-AMI trial.

Methods: Pre-procedural cardiopulmonary IAE included sustained ventricular or supraventricular tachycardia or fibrillation requiring cardioversion or defibrillation, heart block or bradycardia requiring pacemaker implantation, severe hypotension requiring vasopressors or intraaortic balloon counterpulsation, respiratory failure requiring mechanical ventilation, and cardiopulmonary resuscitation. We compared 3-year outcomes of patients with and without IAE according to DBT.

Results: Among 3,602 patients, 159 (4.4%) had at least one IAE. DBT did not differ significantly in patients with and without IAE; however, patients with IAE were less likely to have TIMI 3 flow after PCI. Mortality at 3 years was significantly higher in patients with vs. without IAE (17.0% vs. 6.3%, $P<0.0001$), and IAE was an independent predictor of mortality (see Table), whereas DBT was not. However, a significant interaction was present such that 3-year mortality was reduced in patients with DBT <99 minutes (the median) vs. ≥ 99 minutes to a greater extent in patients with IAE (9.9% vs. 20.7%, HR[95%CI] = 0.43 [0.16,1.16]) compared to those without IAE (5.0% vs. 7.2%, HR = 0.69 [0.50,0.95], Pinteraction=0.004).

Conclusions: IAE prior to PCI is an independent predictor of death and identifies a high-risk group in whom faster reperfusion may be particularly important to improve survival.

Variable	Hazard ratio [95% CI]	P value
Age (per 10 year increase)	1.58 [1.30, 1.91]	<0.0001
History of diabetes mellitus	1.82 [1.27, 2.62]	0.001
History of peripheral vascular disease	1.83 [1.09, 3.07]	0.02
History of smoking	1.50 [1.05, 2.14]	0.03
History of prior myocardial infarction	1.82 [1.21, 2.72]	0.004
Baseline creatinine clearance <60	2.03 [1.35, 3.07]	0.001
Killip class 1 (vs. 2-4)	0.41 [0.28, 0.61]	<0.0001
LAD infarct artery (vs. all others)	1.75 [1.13, 2.70]	0.01
Door to balloon (or first device) (per hour)	1.09 [0.92, 1.29]	0.32
Final TIMI 3 flow (vs. 0-2)	0.49 [0.34, 0.72]	<0.0001
Any IAE	1.83 [1.04, 3.21]	0.04

TCT-48**Does reducing ischemia times justify to catheterize firstly the culprit artery in every primary percutaneous coronary intervention?**

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Background: No consensus exists about which coronary artery should be firstly catheterized in primary PCIs. Initial catheterization of the "culprit artery" (supposed by ECG) could reduce reperfusion time. However, knowledge of multivessel disease